

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

This REVIEW is based on reports for May, 1893, from 3,201 regular and voluntary observers. These reports are classified as follows: 167 reports from Weather Bureau stations; 44 reports from United States Army post surgeons; 2,200 monthly reports from state weather service and voluntary observers; 220 reports through the Southern Pacific

Railway Company; 540 marine reports through the co-operation of the Hydrographic Office, Navy Department; 30 reports from Canadian stations; marine reports through the "New York Herald Weather Service"; monthly reports from local services established in all states and territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

## CHARACTERISTICS OF THE WEATHER FOR MAY, 1893.

The month was cooler than usual, except along the New England and Gulf coasts, and in New Brunswick, Nova Scotia, and the British Northwest Territory. In the north Pacific coast states the mean temperature was the lowest ever reported for May. The frost line was carried to north parts of the south Atlantic and east Gulf states on the 4th and 17th to 19th, and to central Arkansas on the 2d, 3d, and 17th.

### PRECIPITATION.

The monthly precipitation was in excess of the May average generally in the middle Atlantic and New England states, the Ohio and middle Mississippi valleys, the interior of the middle and west Gulf states, and from the north Pacific coast over the northeast slope of the Rocky Mountains. At Eastport, Me., along the south Atlantic and immediate Gulf coasts, and from the middle-eastern slope of the Rocky Mountains over the valley of the Red River of the North and the southwestern lake region the monthly precipitation was less than the usual amount. At points on the middle New England coast, and at stations in Pennsylvania, West Virginia, northern Ohio, Tennessee, the southern plateau region, Montana, and Washington the monthly rainfall was the greatest ever reported for May. The monthly snowfall exceeded 20 inches in the mountains of Colorado, northeastern California, Wyoming, Idaho, and Montana, and at points in northern Upper Michigan, and northern Wisconsin. No snow fell in the Atlantic coast states, except trace in Maryland on the 4th.

### LOCAL STORMS.

Destructive local storms occurred in the Carolinas on the 3d. At Oxford, N. C., a tornado killed 1 person and destroyed property valued at \$16,000. On the 4th violent gales pre-

vailed on the middle Atlantic and New England coasts. Severe local storms occurred in the Ohio Valley and Oklahoma on the 5th, in the Gulf States and Arkansas on the 6th, in Iowa on the 10th, in Texas, Illinois, and Wisconsin on the 11th, and in southeastern Lower Michigan on the 12th. Exceptionally heavy rain fell in northern Ohio and northwestern Pennsylvania on the 15th and 16th. Heavy gales were reported from Colorado over the Dakotas on the 18th. Violent storms occurred in the upper Ohio valley on the 20th, in the Northwestern States on the 21st and 22d, in northeastern and north-central districts on the 23d, in Illinois, Missouri, and Kansas on the 25th, in the Ohio Valley and Tennessee on the 26th, in North Carolina on the 27th, in western Tennessee and Georgia on the 28th, in the south Atlantic states, Indiana, Lower Michigan, and the Northwest on the 29th, in New York, the Ohio Valley, and the Southwest on the 30th, and in New York and the Southwest on the 31st.

### FLOODS.

The month opened with the Mississippi, Ohio, and Arkansas rivers high and rising rapidly. During the early part of the month floods occurred in streams in Ohio, Pennsylvania, New York, western New England, and Virginia, and rain and melting snow swelled the streams of Washington and Oregon to a dangerous height. Several breaks occurred in the Mississippi levees in Arkansas, and during the latter part of the month crevasses were reported in East Carroll Parish, La.

### DROUGHT.

Drought materially damaged small grain crops in central and western Kansas, and injured grass in the western counties of that state.

## ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for May, 1893, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

Chart VI exhibits the normal distribution of atmospheric

pressure and prevailing wind-directions over the United States for May. The publication of the charts of this series is preliminary to the publication by the Weather Bureau of specially prepared data and charts showing meteorological and climatic features and conditions of the United States.